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EXAMINER

WEIER, ANTHONY J

ART UNIT PAPER NUMBER

1761

DATE MAILED: 07/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/725,039

Applicant(s)

SOERENSEN ET AL.

Examiner

Anthony Weier

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-90 is/are pending in the application.
- 4a) Of the above claim(s) 30-73, 84-88 and 90 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29, 74-83 and 89 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I in the reply filed on 4/28/06 is acknowledged.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 89 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Specifically, the instant claims are directed to both method and apparatus claims; claims may only be directed to one invention. It should be noted that for the purpose of examination claim 89 has been considered an apparatus claim in the remainder of this Office Action.

Claim Rejections - 35 USC § 112, 2nd paragraph

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-29, 75-83, and 89 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is indefinite in that it is not clear whether "the enzyme" which is inactivated (line 8) is only one enzyme or all the enzyme (in the event that more than

one enzyme is used). Changing “the enzyme” to “the said at least one enzyme” would appear to remedy this issue.

Claim 12 is confusing in that it is not clear whether same is referring to two outlets, one for water soluble element and one for water-insoluble elements, or just one outlet.

Claims 17 and 79 are confusing in what is meant by the thread having a sheet located at its periphery.

Claim 19 is indefinite in that it is not clear what the reverse direction is relative to. In other words without any reference, the screw moving in either direction may be considered a “reverse direction”. It appears that Applicants may have intended to claim that same may alternatively move in both forward and reverse directions.

Claim 75 is indefinite in that it is not clear whether the claim is limited by the “preferably a raw material in the form of by products or waste products from the processing of foodstuffs” limitation or the broader “animal or vegetable raw material (see lines 2).

In claim 80, “the outlets” is confusing in that it is not clear whether this is limiting the “at least one outlet” of claim 75 to exclude the option of only one outlet.

In claim 80, the Markush group is confusing in that it is not clear the particular alternatives being set forth. Conventional Markush language employs the format “selected from the group consisting of A, B, and C.”

In claim 81, “the outlet” is confusing in that it is not clear whether this is limiting the “at least one outlet” of claim 75 to exclude the option of more than one outlet.

In claim 83, "the fatty fraction" lacks antecedent basis.

In claim 89, "the resulting hydrolysis products" lacks antecedent basis.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-7, 11, 12, 14, 21, 22, 25, 74, and 89 are rejected under 35 U.S.C. 102(b) as being anticipated by Fuentevilla.

Fuentevilla discloses a plant for continuous hydrolysis of a protein containing raw material (e.g. fish) and application of said products by way of packaging for commercial use. More specifically, Fuentevilla discloses a hydrolysis area (e.g. digester with tubular tanks and pipes), an inactivation area (preheater with steam), and separation area wherein the treated material is separated into solid and liquid portions by separating screens wherein it is inherent that said that at least separated outlets for the liquid and solids (as called for in instant claim 11) are present (e.g. Abstract; cols. 2 and 3). It is further expected that the digester therein would naturally maintain any emulsion therein from reaching a certain size by the limited space of the closed system therein.

Said claims further call for a collection area wherein pieces of protein-containing material are collected and provided to the hydrolysis area. However, the pump and pipes used to introduce the fish material into the first digesting vessel of Fuentevilla inherently act as a collecting area for same. In the alternative, Fuentevilla discloses

introduction of a fragmented raw material which would indicate apparatus employed to reduce the size of same (as called for in claim 22) and that same would inherently provide a collection area for said material whether this is a vessel or pipe.

Although it is noted that some of the claims (e.g. claims 3-7) appear to be related to method steps, the instant claims are apparatus claims and the manner in which a machine is to be utilized is not germane to the issue of patentability of the machine itself. In re Otto, 136 USPQ 458. Nevertheless, it is asserted that the system of Fuentevilla is capable of housing an emulsion as called for in any one of claims 3-7.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 8, 18, 19, 23, 24, and 26-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuentevilla.

The claims further call for slanted filter screens. Although Fuentevilla discloses the use of vibrating separating screens to remove solids from liquids, it is silent regarding whether or not said screens are slanted. However, devices employing slanted screens are notoriously well known, and, absent a showing of unexpected results, it would have been obvious to one having ordinary skill in the art at the time of

the invention to have included same as a matter of preference depending on the cost of screens available or the availability of same.

Claim 18 further calls for an agitator used adjacent the outlet of the inactivation reactor that suspends solid material in the reaction mixture. It should be noted that the vibrating separating screens in Fuentevilla would provide such function. However, it is not clear how far the screens exist from the inactivation reactor. Nevertheless, such determination, absent a showing of unexpected results, would have been well within the purview of a skilled artisan, and it would have been further obvious to have provided same adjacent to the outlet as a matter of preference for example, to provide a system which occupies less space.

The claims further call for the inclusion of a pump to move material from the inactivation area and toward the separation area. Although Fuentevilla is silent regarding the means used to move separated materials following the digester, pumps are notoriously well known for transfer of material, and it would have been further obvious to have employed such means as a matter of preference for its common use as a transferring means for liquid material.

Claims 23, 24, and 26-29 call for the apparatus to be capable of hydrolyzing a certain amount of material for a certain time and to yield a certain amount of product, respectively. It is not clear that Fuentevilla is capable of providing such specific amounts. However, such determination as to the size, processing time, and product yield would have been well within the purview of a skilled artisan, and, it would have been further obvious to have arrived at such amounts as a matter of preference

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depending on the amount of material to be treated and the processing speed/time desired and to have provided an apparatus to achieve said amounts through routine experimental optimization of other apparatus variables.

9. Claims 13, 15, 75, 76, 77, 80, and 81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuentevilla taken together with DE 2526879.

The claims further call for the hydrolysis and inactivation areas to possess at least one feeder screw for conveying the reaction mixture there through. Although Fuentevilla is silent regarding same, it is well known to employ screw conveyors in reaction chambers as taught, for example, by DE 2526879 which also involves apparatus used to hydrolyze fish and separate same into different end products. It would have been obvious to one having ordinary skill in the art at the time of the invention to have included the rotating screw conveyor of DE 2526879 to convey material through portions of the hydrolysis apparatus (e.g. digester) as a matter of preference in convey said material. Moreover, the use of the screw conveyor would provide the added benefit of mixing, therefore, enhancing or quickening the hydrolyzing process.

The claims further call for the use of a second and third screw to facilitate movement of material in other parts of the apparatus. It would have been further obvious to have employed such extra screw conveyors to provide more consistency of movement throughout the whole system.

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10. Claims 9, 10, 82, and 83 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuentevilla taken together with FR 2352498 or Fuentevilla taken together with DE 2526879 (as in paragraph 9 above) and FR 2352498.

Fuentevilla is silent regarding the use of a centrifuge to separate the liquid portion into two fractions. However, it is well known to employ centrifugation to separation liquids into different fractions. For example, FR 2352498 discloses enzymatic hydrolysis of fish with separation of liquid from solid and further separation of the liquids therein by centrifugation (see Figure). It would have been obvious to one having ordinary skill in the art at the time of the invention to have employed centrifugation in separation of liquids as way to attain, for example, fats and oils. It is noted that instant claim 9 further calls for such apparatus to be used to separation water-soluble protein from water-insoluble proteins, and it is expected that the centrifuge used in the modified apparatus of Fuentevilla would be capable of providing such separation due to the recitation of FR 2352498 to remove oils and inherently therein oil-soluble material.

The claims further call for the inclusion of a pump to move said oil away from the reaction mixture. Although both Fuentevilla and FR 2352498 are silent regarding the means used to move separated materials from the reaction mixture, pumps are notoriously well known for transfer of liquid material, and it would have been further obvious to have employed such means as a matter of preference for its common use as a liquid transferring means.

The claims further call for a collection area wherein pieces of protein material are collected and then provided to the hydrolysis area. FR 2352498 further teaches the use of a feeder (10) which not only collects material to be digested but serves to convey same to the digester itself. It would have been further obvious to have incorporated such collecting and conveying means as a conventional feeding means as a matter of preference depending on costs involved, space considerations, etc.

Claim 83 calls for the use of a decanter for separating fatty fractions. Although FR 2352498 teaches the use of a centrifuge for achieving same, it is well known to use decanting as a less complicated, cheaper alternative method for separation, and it would have been further obvious to have incorporated same as a conventional alternative separating means as a matter of preference depending on the cost involved or the equipment available.

11. Claims 16, 19, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuentevilla taken together with DE2526879 and either one of MacKenzie or Eweson.

The claims call for a feeder screw that reverses rotation during certain periods of time. It should be noted that reaction vessels employ feed screws (out or in) that have the ability to reverse rotation as taught, for example, by either one of MacKenzie or Eweson. It would have been obvious to one having ordinary skill in the art at the time of the invention to have employed such reverse action in the screw conveyor used to aid in feeding of material into the vessel as well as feeding same out of the vessel into another location as taught, for example, by Eweson (col. 3, lines 36-43) or to enable movement

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of material that may get caught or stuck in the vessel as taught, for example, by MacKenzie (col. 5, lines 1-10).

12. Claims 17 and 79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuentevilla taken together with DE2526879 and Krofta.

The claims further call for the feeder screw to have a scoop located at its periphery. Such screw feeders are well known as taught, for example, by Krofta (see Figure 15). It would have been obvious to one having ordinary skill in the art at the time of the invention to have incorporated such scoop to facilitate gripping and moving of material with the screw feeder.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Weier whose telephone number is 571-272-1409. The examiner can normally be reached on Monday-Thursday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on 571-272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Anthony Weier
Primary Examiner
Art Unit 1761

Anthony Weier
July 4, 2006


7/4/06